

REMARKS

Reconsideration is respectfully requested.

A Supplemental Information Disclosure Statement and a replacement Sequence Listing are enclosed with this response.

Claims 1, 3, 4, 6, 19, 20, and 21 have been amended. Claims 2, 5, 7-18, and 22-30 have been cancelled. New claims 31-58 have been added. Upon entry of this amendment, claims 1, 3, 4, 6, 19-21, and 31-58 are pending.

Sequence Listing

The undersigned hereby states that the content of the Sequence Listing included as part of the application filed herewith and the attached computer readable copy, submitted in accordance with 37 C.F.R. § 1.821(c) and (e), respectively, are the same.

Elected Sequences in view of the Restriction Requirement

The claims have been amended to comply with the restriction requirement.

Applicants elected SEQ ID NO:1 with traverse. In the restriction requirement, the Examiner indicated that he would consider claims encompassing peptides with more than one sequence identifier provided that the peptides shared a well-conserved amino acid sequence. Applicants thank the Examiner for agreeing to consider other closely-related sequences.

Applicants have amended the claims to be directed to SEQ ID NO:1 and other well-conserved, closely related sequences. The claimed sequences are all DP 178 sequences, corresponding to amino acid residues 638-673 of the gp41 glycoprotein of HIV. SEQ ID NOS:1, 3, 4, and 5, named LAI, SF2, RF, and MN, respectively, are HIV-1 Type B sequences originating from the same evolutionary source. They are considered by specialists in the field to be sequences that correspond to each other, have the same mechanism of action, and can be used alternatively as reference for vaccine studies. Please see "HIV-1 Nomenclature Proposal," in the attached Supplemental IDS, especially at page 288, B.US.MNCG disclosing the MN strain, page 289, B.US.RF disclosing the RF strain, and page 289 B.US.SF2 disclosing the SF2 strain.

SEQ ID NO:117, 118, and 119 are all amino-terminal truncations of SEQ ID NO:1. SEQ ID NO:117 is a single amino acid amino-terminal truncation of SEQ ID NO:1, SEQ ID NO:118 is a two amino acid amino-terminal truncation of SEQ ID NO:1, and SEQ ID NO:119 is a three amino acid amino-terminal truncation of SEQ ID NO:1. SEQ ID NOS:117, 118, and 119 have been demonstrated to show no significant modification of the anti-viral activity (see ~~EXHIBIT~~, ~~PROFESSOR~~ ~~ADA~~ ~~LAB~~ ~~E~~ Biochemistry, Vol.35, No.42, 1996, page 13705, Table 2 of the attached Supplemental IDS).

SEQ ID NO:534-541 are peptides that have one amino acid substitution with respect to SEQ ID NO:1. The sequences are supported at page 7, lines 23-29 of the Specification as filed.

Non-elected SEQ ID NO:2, which Applicants reserve the right to pursue in subsequent applications, is the DP 107 peptide corresponding to a different region of the gp41 glycoprotein.

Amendments to the Claims

The limitations of claim 2 have been incorporated into claim 1. The limitations of claims 5 and 7 have been incorporated into claim 1 to conform to the restriction requirement. Non-elected claims 8-18 and 22-30 have been cancelled.

Dependent claims 31-58 have been added to more specifically claim aspects of the elected claims. New dependent claims 32-35 are directed to a conjugated peptide comprising the modified anti-viral peptide of claim 1 covalently bonded to a blood component. New dependent claims 36-39 are directed to a composition comprising the modified anti-viral peptide of claim 1. New dependent claims 40-43 are directed to a composition comprising the conjugated peptide of claim 31. New dependent claims 44-51 are directed to methods of treating human immunodeficiency virus (HIV) infection in a patient. Claims 52-58 are directed to specific chemical formulas.

Support for the new dependent claims may be found, for example, at page 1, lines 11-14, page 12, lines 12-15, page 31 lines 8-19, and page 48 of the Specification.

With respect to all amendments and cancelled claims, Applicants have not dedicated or abandoned any unclaimed subject matter and moreover have not acquiesced to any rejections and/or objections made by the Patent Office. Applicants reserve the right to pursue prosecution of any presently excluded claim embodiments in future continuation and/or divisional applications.

Amendments to the Specification

The Specification has been amended to include SEQ ID NO entries for each disclosed sequence. Specifically, replacement pages 4, 5, 23, and 137-170 are submitted.

At page 23, a typographical error has been corrected.

SEQ ID NO:87-533 identify specific sequences disclosed in the specification.

SEQ ID NO: 534-545 are single amino acid mutations of SEQ ID NO:1 and SEQ ID NO:2. While the sequences are not explicitly listed in the application as filed, they are supported, for example, at page 7, lines 24-30 of the application as filed.

New Sequence Listing

A new sequence listing is also included with this response. SEQ ID NO:87-533 identify specific sequences disclosed in the specification as filed.

SEQ ID NO: 534-545 are single amino acid mutations of SEQ ID NO:1 and SEQ ID NO:2. While not expressly disclosed in the application as filed, SEQ ID NO: 534-545 are supported, for example, at page 7, lines 24-30.

Restriction/Election

Applicants acknowledge that the restriction requirement has been made final.

As discussed above, Applicants thank the Examiner for agreeing to consider other closely-related sequences. Applicants have amended the claims to be directed to SEQ ID NO: 1 and well-conserved sequences having substantial sequence identity, functional identity, and evolutionary homology, to SEQ ID NO:1. The claimed sequences are all DP 178 sequences, corresponding to amino acid residues 638-673 of the gp41 glycoprotein of HIV.

Information Disclosure Statement

Applicants thank the Examiner for considering the Information Disclosure Statements, and respectfully request that the Examiner consider the references submitted with the enclosed Supplemental IDS.

Claim Objections

The Office has objected to claims 1-7 and 19-21 for failure to comply with the lack of unity of invention requirement set forth in paper no. 9 and the election of DP-178 peptide in paper no. 10.

As discussed above, Applicants have amended the claims to comply with the lack of unity requirement. Therefore, this ground for objection is now moot. Applicants respectfully request that it be withdrawn.

35 U.S.C. § 112, Second Paragraph

The Office has rejected claims 1-7 and 19-21 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. The Examiner alleges that reference to a "reactive group" is vague and indefinite. The Examiner suggests that the claims may be amended to "contain a succinimidyl or maleimido group."

Applicants respectfully traverse this ground for rejection. Without acquiescing to the rejection and solely in the interest of expediting prosecution, Applicants have amended the claims to include the limitation "succinimidyl or maleimide containing group" as suggested by the Examiner. Applicants reserve the right to pursue prosecution of the claim prior to amendment in future continuation and/or divisional applications.

This ground for rejection is now moot. Applicants respectfully request that it be withdrawn.

Conclusion

In light of the above amendments and remarks, Applicants believe that this case is now in condition for allowance. Should there be any remaining issues that remain unresolved, the Examiner is encouraged to telephone the undersigned.

Attached hereto is a marked up version showing the changes made to the specification and claims by the current amendment. The attached page is captioned "**Version with Markings to Show Changes Made.**" A deleted item is indicated by crossing out the item, e.g., ~~and~~, while an insertion is underlined.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicants petition for

any required relief including extensions of time and authorize the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. 500862001520.

Respectfully submitted,

Dated: February 20, 2003

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification:

Please substitute the following pages to the Specification: **pages 4, 5, 23, and 137-170.**